

May 1893. *Mr. Johnson, Jupiter's IV. Satellite.*

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Immersions and Emersions of Jupiter's IV. Satellite. By Rev. S. J. Johnson, M.A.

At the Society's meeting, 1871 May 12, exactly twenty-two years ago, it was stated by Mr. Lassell that the calculations of the phenomena of *Jupiter's* satellites were "made to be used with a telescope of 46 inches focal length, but with the larger telescopes now in use the phenomena are seen at different times." The 46-inch telescope at the period referred to bore an aperture of $2\frac{3}{4}$ inches as a rule. As to the immersions and emersions of the IV. Sat. only, which are the least accurately known beforehand, the following are the differences from *Nautical Almanac* times which I have found with a telescope of this sort, viz., $3\frac{1}{4}$ inches, power employed 180.

It may readily be assumed that first or last visibility as seen with an instrument of this size would be pretty nearly equivalent to the intermediate time between first sight and full brightness in a large telescope, the mode usually adopted for observing these phenomena.

				By Naut. Alm.		
				h	m	s
1877	Oct. 18	Em.	6 37 30	Haze	6 41 36	
1879	Nov. 11	Em.	7 41 18		7 38 50	
1884	Mar. 4	Im.	9 49 48		9 48 41	
	Mar. 21	Em.	8 20 22		8 22 19	
	May 10	Im.	10 2 51		10 2 25	
1885	Apr. 27	Em.	8 39 45		8 35 43	
1886	Mar. 11	Im.	10 34 57		10 45 2	
		Em.	12 39 27		12 28 45	
1890	Oct. 11	Im.	9 39 51		9 47 49	
1891	Sept. 28	Em.	11 42 53	Haze	11 48 19	
	Oct. 15	Em.	6 0 44		5 58 52	
	Dec. 21	Em.	6 45 5		6 41 48	

Difference from prediction varies from 26^s to $10^m 5^s$.

Melplash Vicarage, Bridport :
May 6.

Observations of the Planets Mars and Ceres, made at the Royal Observatory, Greenwich, about the time of their recent conjunction.

(Communicated by the Astronomer Royal.)

The observations were made with the East, or Sheepshanks, equatoreal, aperture 6·7 inches, by taking transits over two cross wires at right angles to each other, and each inclined 45° to the parallel of declination. Magnifying power 55.

The observations are corrected for refraction, for parallax, for the error of inclination of the wires, for the motion of the planets, and for the defective illumination of *Mars*.

The two planets and the comparison stars were observed in the same position of the instrument, and the difference in the R.A. and N.P.D. of *Mars* and *Ceres* can be directly inferred from the given measures.